Section 403 Dialogue Process
Meeting Summary*
21 March 1996

Opening Remarks

Dr. Bruce Dotson of the University of Virginia's Institute for Environmental Negotiation, serving as facilitator of the Section 403 Dialogue Process, opened the meeting. This meeting, the final meeting in a series of four, was designed to address the format and overall approach of the 403 rule. Attention specifically was directed to the following issues:

Should the standards (or recommended actions) depend on use patterns of the target populations?
How far should the rule go in recommending response actions?
Should each medium (paint, dust, soil) have a separate standard or should they be combined into an integrated standard?
Should a de minimis level (area) for deteriorated paint be set for individual components or for an entire residence?

Discussion time was also provided for suggesting research issues as requested at the previous meeting by one of the participants.

Participants and guests were reminded that the purpose of these meetings is to enable the Environmental Protection Agency (EPA) to obtain early input from a variety of groups and individuals regarding Section 403 implementation. By doing this, EPA hopes to better identify different perspectives and, as a result, to propose a more effective rule.

After reviewing the day's agenda, Dr. Dotson asked those present to introduce themselves. (A list of those attending is attached.) It was noted that time had been planned for open public comment toward the end of the meeting, though if time allowed, those not at the table would be able to provide comments as the meeting progressed.

Follow-up Items From Meeting #3

a) Summary of February Meeting

Following the introductions, participants were asked if any changes needed to be made to the February 15 meeting summary to ensure its accuracy. No changes were suggested. The meeting summary was accepted by the participants.

* Items in bold italics are EPA's subsequent response to issues raised in this meeting.

b) Tentative Findings and Conclusions on Dust

Doreen Cantor, Chief of EPA's Program Development Branch and the EPA representative to the Dialogue Process, reviewed the preliminary findings and conclusions from the previous meetings on dust and soil. Ms. Cantor reviewed each of the four issues, the responses from the Dialogue participants, and EPA's reaction. She emphasized that her statements were preliminary and that a lot of work remained but that her remarks would give an indication of the direction in which EPA was heading at the present time.

First, she reminded participants that at the last meeting there was discussion about the implications of setting emergency levels for lead in dust and whether an emergency level was actually needed. Last month EPA suggested that the issue could be addressed in general terms in the preamble. Some participants in that meeting felt that EPA should go further. Ms. Cantor indicated that after further thought, EPA was still philosophically and technically uncomfortable with the idea of setting an emergency level in a proposed standard. The direction EPA is now considering is to discuss the issue in a preamble but to be more specific by including a possible range of numbers for an emergency level and setting out the agency's beliefs on how such a number should be selected if that were to be the final decision. She suggested that the emergency level could be based on a very high level such as clinical lead poisoning, maybe 25 mg/dl or higher. EPA could review case management reports to determine what dust levels were found in homes where children had been clinically diagnosed for lead poisoning and select a range based on those levels. EPA will request comment on this approach. Before opening the floor for discussion, she reviewed several additional issues.

The second issue concerned exterior dust. The thinking at last month's meeting was that the rule should apply to enclosed spaces but not sidewalks, stoops, unenclosed porches, etc., because, among other reasons, exposures to these areas are not under the direct control of property owner. The exposure and cleaning scenarios for such areas were likely to be very different as well. Some participants voiced concern that the rule might leave these potential areas of exposure unaddressed. Ms. Cantor agreed that exterior dust could pose a hazard and should not be ignored. EPA will likely include guidance on exterior dust in the preamble and maybe appendix, but not in the rule itself.

The third issue is how the EPA should treat the highest risk communities. The three options presented included: (1) setting one nationally applicable standard (which was the direction EPA planned to pursue as of the previous meeting); (2) setting different standards corresponding to different types of communities, such as the higher risk inner city as distinguished from other areas where the risks are not so high; or (3) having the risk assessments targeted to the most sensitive population, poor inner city black children and using this as the basis for setting a nationally applicable standard.

She reported that EPA still favors the first option: setting one national standard, using the overall dose response for the nation's children. The Agency gave some thought to the possibility of changing the data base to focus on poor urban black children, but determined that the database was not strong enough to support a different dose - response or different regulatory standard at this time. Ms. Cantor noted that this may or may not change over time, but that for now EPA will continue to use the database of the nationwide population of children under 6, while addressing the needs of higher risk communities through program implementation.

The fourth issue concerned whether the dust standard should be addressed in terms of concentration or loading. At last month's meeting and historically, EPA leaned toward concentration as a way to express the standard. After many participants had indicated a preference for loading as a standard, EPA staff met with management to explore the question. The answer is that the Agency will propose a loading based dust standard. Participants expressed strong support for the Agency's decision.

At this point, participants were asked for comments on these several positions. Regarding emergency dust lead levels, one participant asked if there were good data on dust levels for children with levels of 25 and above. Ms. Cantor said the Agency did not have that data now, but is thinking about canvassing states to compile information which may be anecdotal but could be discussed in the preamble. Another participant cautioned that dust collection methods and timing can affect results dramatically. He noted that it is not uncommon that blood samples in children with high blood levels are taken some months before dust levels are assessed. Also, in reference to emergency levels, another participant noted that the national evaluation data indicates dust lead loading was higher in vacant units, and suggested that there be a distinction between vacant and occupied units.

On the treatment of high risk communities, another participant voiced a concern about setting standards based on high risk groups. She suggested that if the more susceptible poor urban children were used to set the standard which would then apply to the entire population, the result would be more non-urban children in homes that would be defined as hazardous. The unintended result would be to divert resources from urban areas. She suggested that there be one standard based on the whole population of children and that distributing resources should be according to priorities taking into account high risk groups. Ms. Cantor acknowledged the issue of diverting resources. It was noted that HUD uses high risk groups as a priority setting mechanism for awarding grants which results in their program being aimed specifically at low income populations.

c) Tentative Findings and Conclusions on Soils

Ms. Cantor next summarized the agency's tentative findings and conclusions on soils based on inputs from the February meeting. Following her summary, participants offered comments.

First, regarding bare soil, EPA is considering various definitions and exploring their limitations. Currently, EPA is considering developing a definition in the form of some percentage of uncovered ground. Coverage would include grass, ground covers, mulch, concrete, etc. In general, the standard would only apply to bare soils. EPA is considering a de minimis level for bare soil. This would allow a yard to have some area of bare soil but not enough to pose a danger to a child. The HUD de minimis level is nine square feet total. Ms. Cantor said EPA's current thinking is that some de minimis does make sense. For lack of a better number, EPA would follow HUD for the total area but would look for a smaller number for contiguous areas. There is no data to suggest a number, but for practical reasons, EPA is considering one square foot, though this is not much more than a place holder value for the moment. These numbers are open for discussion, and, as in the HUD de minimis guidelines, the exemption would not apply to play areas.

A second issue concerned whether a yard should be divided into sub-areas for sampling. EPA's current thinking is that a yard should be divided into two components: the dripline and the rest of the yard. If there is a choice of sample areas, risk assessors would identify and test obvious play areas. While HUD combines de minimis areas for the whole yard, EPA is not sure whether to keep a separate de minimis level for each area. Where to sample was addressed when Ms. Cantor showed an overhead of a decision tree (see next page) intended to answer that question. The intent was to find a clear and simple way to address this question before the rule is proposed.

One participant asked if there were any data on the number of areas with less than one square foot of bare soil. He said he had never seen a house with less than one square foot of bare soil, since any house with a tree has at least that much. Ms. Cantor responded that for such reasons (including an earlier statement that very few homes have less than 9 sq. ft. of bare soil, the current HUD deminimis level), EPA had toyed with the idea of dropping the de minimis exemption altogether. There was no data to either support or refute it, and if the level was not excluding anyone, there was no reason to have a de minimis exemption. Another participant warned that if the rule demands a sample of "every place in the country," then it will be disregarded. The intention should be to encourage people to test bare play areas, even though there is no precise basis for areas and size. The focus needs to be on hazard areas - particularly play areas, and driplines if they are accessible to children.

Another participant suggested that a de minimis area and a percentage of the yard be considered together, since yard size could vary from 1000 feet to 3 acres. One participant said that the de minimis for contiguous areas should be at least two square feet to accommodate the footprint of a garbage can.

A number of participants felt that the decision tree approach made sense, and said it was important that distinctions be made between driplines and other bare soil areas.

One participant was concerned that if there is no identified play area, that the whole yard would be treated as a play area. Ms. Cantor said that EPA's intention was to encourage property owners to identify that most frequently used area as the play area. She acknowledged that some people would be interested in doing the right thing, but others may try to show there is no hazard and may try to evade sampling by claiming that there is no play area. EPA is addressing the possibility of evasion in treating the rest of the yard as a play area. The participant restated the concern that the standard which offers children the most protection is not necessarily the lowest number, particularly with the issue of soil. He was concerned that abatement efforts might not get past the yard to the house. He cautioned that EPA not become preoccupied with soil, since interventions inside of the house may be more cost effective and indoor hazards may be more easily controlled.

One participant warned against using the slum lord as the model person addressed in policy, since slum lords will ignore regulations anyway. Slums are generally loaded with violations. He suggested EPA look at those people who want to do right thing, and try to help those who may have limited resources.

Another participant emphasized the need for flexibility regarding the presence of children and bare versus covered soil. There are a lot of diverse situations where the risk assessor needs flexibility. For instance, in vacant units it is difficult to determine where children will play. He also observed that geography affects ability to grow and maintain ground cover, and that a flexible standard is important to avoid having to sample every yard in states where bare soil is the norm. He argued that the main emphasis should be whether children are present.

Another participant pointed out that these standards will not only be used as a guide to risk assessors but will influence many decisions and responses. Because response actions are to be discussed later on the agenda, the facilitator suggested that Ms. Cantor finish her summary points.

Ms. Cantor returned to the issue of bare and covered soil indicating that in general it would be bare soil that would be required to be sampled. However, under certain circumstances, there is a question of whether covered areas should also be addressed. Some of those circumstances would include situations where there was reason to expect a problem, like unexplained high dust lead levels inside the house, presence of a lead poisoned child, prior use of the property, community-wide high lead levels, etc. If elevated levels are found, the hazard may extend into a covered area depending on what level was found. This presumes EPA would go with a two level standard: if the lower level were found, say 400 ppm, the property owner could plant grass or cover the soil, or do additional sampling. If the higher level was found, they would have to do additional sampling and take appropriate action.

Regarding hazard levels, EPA is considering keeping parts of the general format of the current guidance, e.g., select a high level where permanent cover or removal

would be indicated and a lower level where lesser measures would be appropriate. The choice of higher level will likely include considerations of risk as well as cost benefit analysis. Risk would have to be reduced to a large extent to justify the cost of soil removal and disposal, so those considerations would be taken into account in setting the higher number.

The current guidance also includes a middle level of 2000 ppm and above which applies when children are not expected to be present. EPA is not sure that there is a need for this middle number and the current thinking is to drop it. The 403 standards are to be used in residential areas where children can be expected to be present. Therefore, EPA is not sure that there is a need for a separate soil lead standard for situations where children are not present. She asked for participant response now but noted that later on the agenda is a discussion of use restrictions so this issue might come up then again.

A participant asked about the scope of the rule. Would an apartment house with 100 units and only 3-4 children be advised to treat all the soil? Would a family project loaded with children be treated similarly? By dropping the standard for areas where children were not likely to play, this participant was concerned about - including zero bedroom units or housing for elderly. It was later clarified that zero bedroom housing and housing for the elderly are not part of "target housing" and may not be covered in any case.

One participant was troubled by dropping the 2000 level. He was not sure what has changed in logic, science, or data since the guidance was issued 18 months ago. This commentor suggested keeping the distinction in the current guidance of between areas where children are likely to play or not. If this distinction were dropped, then the 400 ppm standard would apply to the entire yard. Ms. Cantor responded that there had not been a change in logic or data, the 2000 ppm was chosen as a point midway between 400 ppm and 5000 ppm - 400 was never meant to apply just to the play areas, and 2000 to the rest of the yard. The 2000 level was meant to apply only to areas not frequented by children - meaning commercial areas, front yards of schools, and other areas where access to children is limited.

If 400 ppm applies to an entire yard, this participant noted, there will be lots of soil testing that will demand interim controls and action. There will be a lot of expense in yards before we even get inside the house. We need numbers that will motivate action that will achieve the most risk reduction. In order to clarify exactly what the current guidance states, the following passages are quoted from page 11 and 12 of the July 1994 guidance.

When soil lead levels exceed 400 ppm and children are likely to be present, exposure-reduction responses should focus on interim controls designed to change use patterns and create barriers between children and contaminated soil. This involves taking steps to keep children away from certain areas and to reduce exposure to bare

soil in accessible areas. As an example of changing the use pattern, thorny shrubs can be planted to keep children from playing around houses that elevated soil lead concentrations immediately next to the house. Also, play equipment can be moved from bare soil contaminated areas to encourage children to play elsewhere or, for more highly contaminated areas, access can be restricted by fencing. As an example of the use of barriers to reduce exposure, grass or other groundcover can be established and maintained or the area can be covered with mulch or gravel. While the effectiveness of many of these interim control actions cannot yet be quantified, the Agency believes that they can reduce exposure. However, whenever interim controls are used, their condition should be monitored to ensure continued effectiveness. For example, the condition of plants, groundcover, etc., that serve as use-modifying and barrier-type elements should be visually inspected to ensure that they have become well established and remain effective at preventing exposure in accordance with the upcoming HUD Guidelines.

Within the range of 400-5000 ppm, the degree of risk reduction activity should be commensurate with the expected risk posed by the bare soil, considering both the severity of exposure (as reflected by the soil lead concentration) and the likelihood of children's exposure. At concentrations in the lower segment of this range (e.g., between 400 ppm and 2000 ppm), emphasis should be placed on reducing exposures through interim controls at those areas expected or intended to be used by children. If the area is not frequented by children, these exposure reduction activities may be less rigorous. Where bare soil lead levels are found to be 2000 parts per million or more, interim controls should be implemented even if the area is not frequented by children.

A third participant also expressed support for a three tiered standard. The intermediate level enhances awareness which supports owners taking the initiative and thinking in terms of risk management. Ms. Cantor said that EPA's current thinking would keep the 400 level and the 5000 level but would drop the mid-level because she can't think of a place in the yard where children were not expected to play.

Another participant reiterated that the standard is not just for target housing, but will be used for other purposes, such as when residences change hands. For these instances, it is useful to have a three tiered standard as guidance to owners and purchasers. In this person's view, the three tiered standard has been working well. In response to a question about where a middle level might be used, one participant suggested: front yards where children don't play. Another participant said it has been his understanding that 400 applies to where kids are really likely to play even if it is hard to define these areas. The rule should leave discretion for risk assessor's judgment to be applied. This person felt that applying 400 ppm to the whole yard is somewhat impractical.

Another participant stated that we must be careful in target areas so we don't regulate so tightly that people give up or that it becomes so expensive that it prohibits clean-up inside houses. Lots of soil is over 400 in residential areas. In St. Louis, the

mean level was around 700. The 2000 level has not been controversial and has been well accepted. EPA responded that the standard will already generally apply to fewer places than does advisory guidance.

One participant gave his own situation as an example. "In my 3000 sq. ft. backyard which is fenced, I have a swingset and sandbox. These play areas are justifiably subject to 400 level. In the rest of the back yard, does the 2000 level apply? You are saying, "not currently." That is how it should be applied, however, that is why we need 2000. Our inner cities should not become Superfund sites, numbers around 400 will do that."

Another participant focused on grass cover as a management response. He noted that in many parts of the country, it is very expensive and even impossible to establish and maintain cover because of climate. Ground cover may not be cheap. We should worry about "over control" with 400. A second point was that maybe we need to ask what is the risk we're trying to avoid? If we are concerned about 400 because children are eating the dirt, that may be an appropriate standard. Where children are just occasionally crossing the yard, we are concerned with tracking it in to the house. At 2000, tracking may be significant. What if you tracked 400 ppm into the house, is there the same or less risk? Is it a significant risk? Do we have data? Looking at the entire yard at 400 could be misleading, and will be expensive. There is a reasonable expectation that people will use this number way beyond the purpose EPA has in mind. EPA needs to be aware of unintended consequences.

Another participant observed that a lot of environmental advocates supported the 2000 number. Many play fields have bare spots above 400 but are perceived as posing little risk. When we are concerned over these large pieces of land in urban areas and when regulation replaces guidance, the numbers will be used in these types of settings, not just suburban residential. We don't want all of our efforts for lead going down the tubes because we create a huge trucking project in this country. Ms. Cantor agreed that for all land around community centers, for example, 400 is probably not the appropriate number but she feels this could be addressed in the preamble or appendix. She does not see a disagreement about such areas and said that the current guidance supports such a distinction. The disagreement arises on how this number applies to residential housing.

To close out this portion of the meeting, Ms. Cantor stated that EPA will consider the variety of views expressed both with the interpretation of the current guidance and with the range of levels for a regulation. She also pointed out that EPA has not done analyses to determine exactly what the numbers will be. She observed that the participants seem to feel relatively comfortable with numbers around 400 and 5000. If the analysis yields new numbers, EPA would try to at least bounce those numbers off people.

A participant summarized his view that in the overall equation, the nature of the

range between 400 and 5000 changes when you take 2000 out. Usually when EPA issues regulations, it is usually attacked. In this case, the guidelines were supported by the environmental community, health departments, lead industry, cities and municipalities. She supported no change from the guidance.

As a final point, Ms. Cantor observed that EPA is thinking about whether dripline soil should subject to same number as the mid-yard soil. This issue is not clear as to what should be done. She asked those present if maybe there should be a higher number? How would you feel about allowing a different number in each of the two areas versus the desire we all have for simplicity?

One participant responded that you can do something about driplines. For two feet or so around the house, it would probably be inexpensive to do. Children do play there and it is economically feasible to deal with it. He was thinking that 400 would be reasonable for the dripline. Another participant was thinking 2000 unless there was evidence of children and a play area. If there is not evidence, then 2000 ppm should apply.

EPA's Response Following the Meeting

We have not developed a final position on this issue. Staff are in the process of collecting and analyzing data from several states and cities and are examining the middle tier issue together with de minimis area of bare soil and accessibility.

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A fifteen minute break was taken before continuing with the new issues listed on today's agenda.

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Issue #1: Should the standards (or recommended actions) depend on use patterns of the target populations?

Ms. Cantor explained how the rule might address use patterns. Children under six are the primary population of concern and are the basis for the risk assessment the Agency is conducting. Should areas not accessible to children (areas where they are not likely to go or are precluded from going, such as attics, basements, storage rooms or other areas not serving as normal living spaces) be sampled? EPA believes no sample should be required if children do not go into those areas. There may be special circumstances, so the risk assessor does have some discretion, but typically these areas

would not be sampled.

The second aspect of this issue is areas in yards covered by thorny bushes or restricted by fencing that would preclude access by a child. Because there is low likelihood of contact by children, the area would not be considered a potential hazard, and so no testing would be required unless the risk assessor believes differently.

The third question is can a use restriction be used to reduce or remove a hazard? Could a use restriction such as closing off a room or putting up a fence be considered a removal of the hazard? On this the Agency's belief is more tentative. In general, for the family living there at the time, restricting access could address the hazard. The fix selected, she added, would have to include the subsequent monitoring of possibly soil and definitely dust in areas not closed off. This would not apply and the hazard would not be considered fixed in terms of a 1018 situation where a house is about to be sold.

HUD responded that owners need to be given guidance as to those things that are acceptable obstacles to access by children. Several examples were given, e.g., pull down stairs, steep stairs with no handrail, little or no natural light, uncleanable floors (e.g., dirt floor in a basement) and significant floor to ceiling distances. The minimum Property Standards publication, put out by HUD, provides some examples and definition. It was suggested this might serve as a model.

Another participant indicated that to him, controlling the hazard by use is satisfactory. A 1018 transaction is intended to provide knowledge of the existence of a hazard. If a hazardous room was sealed off and this was not disclosed, then you would be breaking the law. Another participant said that in their experience, it is common for parents to report that a room is closed off but investigation shows this is not true. If you board up a door and can't get in, that is closed off. If it is just locked, then it is not really closed off. The wording will need to be handled very carefully.

One participant made a distinction between risk assessment and risk management. "Boarding up a room does not eliminate the hazard, it is only a way of managing a hazard. Where do you sample? If there is a padlock on a bedroom door, do they need to sample in there? Is this part of interior living space?" A good indicator of whether sampling should occur would be whether an area is listed as part of the interior square footage in the advertisement of the house for sale. It becomes a matter of common sense and judgment.

Another person responded by noting a difference between owner occupied and rental housing. What may be appropriate for an owner occupied unit may not be appropriate for a rental unit. A landlord shouldn't simply tell tenants not to use a bathroom.

The facilitator then put the question another way. Discussion so far concerns areas that are completely inaccessible. What about continuum of accessibility?

Hallways, bedrooms, play areas, common rooms, eating areas. Is it open and shut? The response is fairly easy according to one participant. Is the area part of the living space or not? Attics are not calculated as living space, nor are unfinished basements. The standard should apply to interior living space.

Ms. Cantor summarized that most people seem to think unfinished basements and attics would not be considered as potentially hazardous areas. A padlock would not be enough to remove the hazard. If EPA could define areas not normally part of living spaces, that would satisfy the need. The rest of living spaces would be of concern. It would not be a matter of degree or intensity of use but whether it is a living space or not a living space.

Ms. Cantor then directed discussion to areas in a yard. Should areas that a child can't get to - perhaps it is fenced or has thorny bushes - should those areas be considered to be potential hazards? One respondent indicated that he did not see such areas as hazardous. Pulling the soil out is so expensive, perhaps $100 per ton, that we need to put alternatives like fencing and thorny bushes in the guidance. Regarding dog runs, if the pets come in the house, they may bring in lead. If it is an area where the dog spends a lot of time, it would be of concern but one shouldn't worry if it is an area that the pet merely passes through.

Another participant observed that where grass cannot survive, fencing may be the only practical way to restrict access. He indicated that he is mostly worried about children from nine months to three years. Children four and five years old play differently and there is not as much hand to mouth activity. We are concerned with keeping children who play in dirt and put their hands in their mouth from doing that in soil which is dangerous. In small areas, mulch, can be effective if you do it right. Soil removal is so expensive, people won't do it so access restriction becomes the only realistic possibility.

Ms. Cantor then asked that even if soil above 5000, would planting rosebushes be acceptable? One participant responded that in low income housing, unless the government pays for it, soil will not be removed. Thorny bushes is not a perfect solution, but it is better than doing nothing.

The facilitator raised the issue of bare soil where trash cans are fenced off with an enclosure for visual effect. The participants agreed that they should be considered to be inaccessible and added, in all these scenarios we must rely on reasonable judgments by risk assessors. Ms. Cantor summarized the group's opinion that in general if an area is inaccessible to children, it should not be a candidate test area. Participants made a fairly strict interpretation of exterior or interior accessibility. People also felt that examples should be given. Beyond that risk assessors should be trained to make judgments.

As a final comment, one participant voiced a concern over dividing the yard into

fenced off areas and open areas. He emphasized that there is a difference between where children play or where they can be expected to play, and where they have general access to the rest of the yard. He was interested in having the middle range standard (2000) included in the rule to apply to the rest of the yard as discussed earlier. Ms. Cantor stated that EPA's current thinking was that if the area was not fenced off, then it would be considered to be accessible, although she understood that that may not be the view of many in attendance.

EPA's Response Following the Meeting

We are leaning towards incorporating use patterns and access restrictions into the regulations and accompanying guidance with respect to where testing needs to be done (e.g., dust testing only in living spaces using HUD's specifications) and appropriate hazard control measures (e.g., fencing).

Issue #2: How far should the rule go in recommending response actions?

Ms. Cantor introduced this question by providing a summary of Section 403 as it pertains to response actions. The 403 guidance set a number of levels for the different media. It also suggested response actions that should be taken upon the discovery of a lead-based paint, soil, or dust hazard.

The Section 403 regulation that EPA is now in the process of developing is different from a typical federal regulation in that it is a hazard identification regulation rather than an action-forcing regulation. EPA does not have the authority in Section 403 to require individuals or companies to take action.

Ms. Cantor described four options available to EPA for dealing with response actions in the regulation. The first option would be to avoid addressing response actions altogether and simply use the regulation to define hazard levels. Although Ms. Cantor does not believe this to be the best course of action, she did indicate that it would be workable for all media except soils. In the interim guidance, a tiered approach to soil hazards was established with each tier having appropriate response actions. If the regulation does not mention response actions, it would be unclear as to the purpose of having two or more hazard levels.

The other three options would each include appropriate response actions. They would differ mainly in their placement of the response action recommendations. Option two would place it in the preamble. Normally in federal regulations, information placed in the preamble is interpreted as guidance and is understood as EPA's first interpretation of the issue. Although the preamble is useful as guidance, it is generally not printed in the Code of Federal Regulations (CFR). Option three on the other hand, would place recommended response actions in an appendix where it would be printed in later versions of the CFR. The appendix is generally seen as an attachment to the rule. The fourth option would be to place the response actions within

the rule itself. As Ms. Cantor explained, this may be confusing as rules are generally interpreted as mandatory activities - an erroneous interpretation in the case of Section 403.

Ms. Cantor favors putting response actions either in the appendix or the preamble, with a preference for the appendix because it would be more widely disseminated and kept a part of the rule package. As to the specificity of these recommendations, EPA's intention would be to give a broad range of response action possibilities and leave much to the discretion of risk assessors, property owners, and others interpreting the regulation.

In general, participants agreed with Ms. Cantor that some mention of response action is needed and that the most appropriate placement for this discussion would be in the appendix. Participants also agreed that the recommended response actions should be kept general by offering a range of possible actions. It was acknowledged that appropriate response actions are dependent upon property management, funding, and other factors which cannot be controlled by EPA. Users can look to other documents for additional information on the appropriate action to take.

One of the more difficult issues that participants grappled with was how the soil standards should be defined noting that the guidance linked the definition to tiered response actions. Ms. Cantor offered one option to this, stating that lead contaminated soil and a soil hazard could possibly be conceptualized as distinct entities. This would differentiate between soil levels without necessarily bringing in a response action. This would be similar to how 403 might differentiate between lead contaminated dust and a dust hazard level. She did remind participants, though, that at an earlier meeting, this approach was not well received. One participant was optimistic that EPA could avoid prescribing responses by defining the standard in terms of exposure. As he explained it, 400 ppm would be defined as the risk if directly ingested. At 2000 ppm the risk would be a "track in" problem. Recommended solutions could then be placed in the appendix. Ms. Cantor was skeptical that EPA's scientists would agree that the only hazard at 400 ppm is direct ingestion. In the end, Ms. Cantor and many participants seemed to agree that it would be difficult to define a soil standard without indicating response actions.

It was also suggested that each medium could be looked at differently. Soil hazards seem to need to be tiered. On the other hand, it may not be desirable to have tiered dust standards. One participant offered examples of research done in Baltimore where more damage was caused from paint hazard remediation than from the initial paint hazard because the paint removal created a huge pile of dust. Another participant also did not feel it wise to have different levels for dust. He pointed out that dust is very different from the other two media in that, regardless or whether there is a little dust or a lot, the response action is to clean. As to the issue of an emergency dust standard, although he was not opposed, he did feel that the emergency level should provide guidance in terms of risk management by emphasizing the urgency of

the problem and the timing of the response, since the regulation is not requiring specific action.

Ms. Cantor next moved to the question of whether the guidance appropriately deals with soil lead hazards at high levels of contamination (e.g., over 5000 ppm or other level as determined in EPA's deliberations). The guidance states that the only acceptable resolution of these hazards is to permanently fix them by permanently covering the soil (e.g., with concrete) or removing it. One participant agreed that such actions are appropriate stating that, "where there is a significant hazard, significant steps must be taken to deal with it." Nevertheless, he was unsure of whether 5000 ppm was an appropriate level upon which to base this level of response. Another participant was concerned with the affordability of removal and coverage. He suggested that in residential areas, a secure, barbed wire fence may be good enough. Ms. Cantor and others were concerned that a fence is not a permanent measure. Even if the fence goes under ground 12 feet and is resistant to wirecutters, any uncovered dirt could still blow around.

Another participant suggested that EPA design the regulation so that new technologies could satisfy the cleanup criteria if proven equally protective. She mentioned phosphate treatment as one new technology under development that might offer remediation at lower cost than soil removal or cementing the site. HUD allows a way for new technologies to be adopted without a new administrative procedure by wording its guidelines, "or other methods that have been approved by the Director." Another participant suggested that if certain chemical fixes such as phosphate were found to be permanent, EPA may want to use the phrase "5000 ppm bio-available." Ms. Cantor and several other participants were concerned that this raised a whole other technical issue. On the same subject, another participant pointed out that testing does not distinguish whether the soil has been previously treated with phosphate or not. From a practical point of view it presents a difficulty because lead may be counted even though it isn't "available." Ms. Cantor felt that if and when phosphate binding becomes approvable by EPA, the agency would have a method that will account for this in testing. Finally, one participant pointed out that if phosphate treatment is performed on one of two adjoining contaminated lots, and neither of those two lots have any grass on them, recontamination of the treated lot will occur, much as would occur if soil removal is done on only one contaminated lot.

EPA's Response Following the Meeting

We are leaning towards including guidance and recommendations regarding response actions in an appendix to the rule. This option would provide for the permanent inclusion of this guidance in the Code of Federal Regulations, making the document more widely available than a stand-alone guidance document or the preamble.

Issue #3: Should each medium (paint, dust, soil) have a separate standard or

be combined into an integrated standard?

This question can be seen as the synthesis of the previous three meetings where paint, soils, and dust were addressed separately. At this point EPA asked the group whether a more holistic approach should be taken and if so, how would the three by synthesized. As Ms. Cantor observed, each medium contributes to the others, particularly in the case of a home with elevated dust levels. A child's exposure is a combination of the three as well as from other sources of lead.

Ms. Cantor summarized EPA's current thinking on the issue by referring to a chart which had been mailed to participants as part of the background materials for this meeting. Example one shows a more simplistic version of an integrated standard where dust hazard levels would change if soil lead levels were above or below a certain number. Example two charts dust and soil loading for homes where no deteriorated lead based paint has been found. If the aggregate of the two values is below the line, the area is below the standard. If the loading falls above the line then the area is above the standard and remediation would be advisable. Ms. Cantor felt that the second example is conceptually more attractive and correct. Nevertheless, based on feedback from participants and from other comments during the development of the guidance, EPA favors the simpler separate standard rather than either of the integrated standards.

All participants who commented seemed to be in agreement that the more simple route of separate standards would be the best way to address this issue. They acknowledged that theoretically the second example might be the best model, but believed that it did not seem workable. A participant did suggest, however, that the chart would make an excellent training tool but should not be part of a regulatory document.

One participant pointed out that the second example raises questions about what action would be taken. Another participant raised the issues of a hazardous house versus the existence of a hazard. She imagined the case of a parent who would be concerned for her nine month-old baby crawling around on the living room floor. The regulation would tell her that exposure to lead in the living room would be negligible if soil lead levels outside were low. This parent would want to take action regardless of soil lead levels outside. What theoretically makes sense across a population does not necessarily make sense for individuals.

The facilitator then asked whether there would be a discussion in the appendix to alert people to the potential risk from multiple lower level exposures. Ms. Cantor assured the group that general guidance for a risk assessor would be provided. In the case of a lead poisoned child, the risk assessor should look for all sources of lead that need to be curbed. Another participant believed that there should be some discussion in the appendix that addresses lead levels that fall just below a hazard level. A home may contain 1 square foot of deteriorated lead based paint and, although it may not be considered a hazard by the regulation and does not pose enough threat to keep the

house off the market, certain actions should be taken to lessen the risk.

In a final point, a participant distinguished between the integrated standard issue and the association of friction surfaces with the existence of dust. Earlier the group concluded that a friction surface on a window is not a hazard unless it is associated with evidence of friction. Ms. Cantor fully agreed.

EPA's Response Following the Meeting

We are leaning towards setting media-specific standards. Although an integrated standard would be appropriate from a scientific perspective, we recognize that media-specific standards would be easier for the public to understand and to implement.

Issue #4: Should a de minimis level (area) for deteriorated paint be set for individual components or for an entire residence?

EPA believes that some de minimis level for paint is appropriate and indicated that it is leaning toward a de minimis that is close to what is in HUD's guidelines. If de minimis is the chosen route, the question to the group is whether the de minimis should be on a component basis (windows, ceiling, walls, floor), a whole house basis or a melding of the two approaches. HUD's guidelines use a component basis. Ms. Cantor was quick to point out that this de minimis is for risk assessment not risk management.

HUD strongly favors addressing de minimis at a component level and therefore believes that limits should also be set on a component basis. It was noted that HUD spent around three or four years debating this issue. Ms. Cantor agreed that the response would be at the component level but did not think that this notion necessarily translated similarly for risk assessment. She offered an example where a little bit of lead paint could be found an all four walls yet none of which would trip the de minimis but together, the sources would add up to a fair amount of deterioration. A response to Ms. Cantor's example was that if the aggregate area poses a hazard but does not trip the de minimis, then EPA has not set the de minimis at the correct level.

Another participant also argued for the simplicity of basing the de minimis on components, noting that there will always be scenarios such as Ms. Cantor's that would seem troubling. This participant underscored the need for basic safeguards such as proper maintenance and cleanup when dealing with paint. As long as this message is made clear, many of the hypothetical problem situations will recede.

Some disagreement arose as to whether the group agreed earlier that the Section 403 regulation would simply apply HUD's two square feet or 10% standard when measuring components. Ms. Cantor, along with several others, understood that this group had wanted to drop the 10% of the component factor. Others did not have that understanding. One individual believed that 10 % for windows was much too small. He claimed that most every house would exhibit more than 10 percent deteriorated paint, particularly if the sash and mullions are included in the calculation. Windows are the most likely component in the house to be deteriorated. It was recommended that EPA revisit the 10% criteria.

The facilitator then asked whether there would be an advantage of going with the entire house or a room instead of a component? The first response was that there would be no advantage and that cumulative effects should be addressed and explained in the appendix while the rule should use a component basis. Ms. Cantor posed a scenario where every surface in the house was just under de minimis. Would it pose a hazard? If not, would people feel confident with that outcome? Participants seemed to agree that, yes, this house passes. One participant was much more concerned with a house with lead paint levels of 4000 ppm that is allowed to be machine sanded. That scenario would be much more hazardous. Another participant stressed that this is a complicated issue. If one is to assume that dust is a pathway then the entire burden of deterioration is going to contribute dust because of the aggregated nature of the problem. On the other hand, the remedial steps are going to be component based. Ms. Cantor agreed and didn't feel that there was any disagreement about how remediation would be addressed. Nevertheless, the participant still felt that because these remedial steps are so disparate, the whole house may not need to be remediated just because it exceeds a certain threshold. This person noted that the problem is often localized in certain components such as doors and window sills.

EPA's Response Following the Meeting

We are leaning towards including a component-based de minimis area for deteriorated paint (e.g., the approach used in the HUD guidelines). Staff believes that this approach is likely to be more practical than the house-based de minimis: (1) it would require paint testing for only those components that exceed the de minimis ; and (2) it would be more consistent with the response to deteriorated paint which is component-based.

Issue #5: At the suggestion of a participant at the last meeting, it was agreed that some discussion would take place about the research agenda for residential lead. What are your collective thoughts about how a research agenda can be pursued and what topics in particular should be on this agenda?

It was explained that research at EPA is primarily carried out by the Office of Research and Development (ORD). Its budget for research on lead for 1997 appears to have been cut to zero. Nevertheless, Ms. Cantor requested ideas from participants

about long-term research proposals as well as discrete short term analytical projects.

Again a participant encouraged EPA to leave the window open for the exploration of new technologies. He suggested that the regulation be flexible enough to change based on new research findings. In that way, people will be encouraged to feel like they can be part of the solution to the problem of lead contamination. Another participant pointed out that without money from the federal government the likelihood of people doing testing or remediation will be remote. The federal government needs to finance research projects that will lead to response actions that are not only less expensive but more protective. Another participant reinforced that position by stating that HUD, EPA and CDC could all today come up with good research agendas. What is lacking is the funding to carry the research out. It was suggested that the research likely to get done would be priority research linked to a goal. EPA should set the goal and, in that way, the research will gain a higher profile and a greater chance of funding.

Ms. Cantor explained that the scope of research on lead paint hazards would have to be primarily long-term. On the other hand, EPA is in a hurry to propose and finalize the 403 regulation. The Agency does not have five years to carry out research to enable it to definitively say that "x level of lead translates to y level of hazard." Instead, EPA acknowledges that it will have to say that "this is our best scientific opinion at the time." Nevertheless, some participants did feel that additional research could be conducted to reduce uncertainty, particularly in the areas of dust and carpets. One participant felt that there is, at present, an over-reliance on the Rochester data for dust.

One participant offered to share the research priorities that emerged from a session of the Three Cities Demonstration Project. According to her, the project raised more questions than it answered. For instance, the study left confusing questions as to the role of fugitive dust. Additionally, exterior dust measurements for this study were truly experimental. Confirmation and replication is still needed to assure the accuracy of the measurements.

Another participant believed that more research programs such as the one being conducted by National Institute of Environmental Health Sciences are needed. This program convenes interdisciplinary teams of scientists, medical scientists and community groups. Because response action often takes the form of lifestyle changes, successful programs depend on obtaining cooperation from the community. Those who are directly affected by lead contamination provide the research team with valuable information and help legitimize the research. The community organizations serve as a link between the scientists and those affected.

A third participant noted that measures other than intervention (hand washing, etc.) can be extremely effective. She felt that education programs, especially in high risk communities, could disseminate useful information on these alternative measures

and effectively supplement regulatory efforts. At the same time, costs could be substantially cut. Bio-availability is another area of research in which participants supported exploration.

Asked by the facilitator whether there was any further comment on topics of research, one participant suggested that research on the positive relationship between paint (deteriorated and undeteriorated), dust and soil needs to be expanded and improved. Another participant concluded by stating that even if the group could agree to three or four priority research topics, he was not sure what difference it would make. Already there exists a clear picture of what the problems are. Both HUD and EPA have work going on in this area. It was recommended that EPA build upon the existing lists of good study questions to build future, long-term research projects.

Conclusion and Final Remarks

Ms. Cantor explained the next steps to be taken. First, the Agency will review the information that the group provided at this meeting. She felt that participants were generally thinking alike on the issues at this meeting, with the exception of the issues of a middle level value for soils. She would like to find a way to get back to dialogue participants and obtain additional feedback, perhaps in the form of an informal meeting at EPA or via written communication.

After this review, the Agency intends to synthesize the results of all four meetings in order to produce a plan of attack. At the same time EPA will finish its risk assessment and economic analysis of the various options, particularly those of dust and soil. The Science Advisory Board (SAB) will be reviewing selected issues in the risk assessment and cost benefits analysis methodology. EPA will request a quick turnaround from the SAB. Participants wishing further information about the SAB review, including scheduling, should contact Dave Topping or Barbara Leczynski at EPA. Finally, the proposal will be put forward, public comment obtained, and the regulations finalized. These steps will be carried out in the coming months.

Ms. Cantor concluded the meeting by praising the dialogue process and the participants. She stated that the process had been extremely helpful to EPA. She was also impressed with the degree of similar thinking among so many people representing such a wide variety of groups and interests. She noted how well people worked together, stating that even disagreements of philosophy were characterized by well-thought out positions.

Ms. Cantor thanked participants for their helpfulness in identifying options and issues that the Agency had not thought of before. She also acknowledged that the group was extremely helpful as a sounding board and reality check and noted that EPA had modified a lot of its thinking on the basis of the ideas and suggestions it heard during the Dialogue Process.

The final meeting adjourned.

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